Vol. 177 CARBOHYDRATE RESEARCH JUNE 15th, 1988

CONTENTS

(Abstracts/contents lists published in: Chem. Abstr.; Curr. Contents; Phys. Chem. Earth Sci., Life Sci.)

The 2,3-epoxide, a donor in lanthanide shift-reagent studies of carbohydrate systems; the X-ray structure of methyl 2,3-anhydro-4,6-*O*-benzylidene-β-D-mannopyranoside
D. CUNNINGHAM, N. GAVIN, E. LEE, P. MCARDLE, J. O'CALLAGHAN, AND T. HIGGINS (Galway, Ireland) 1

Crystal structure of di-β-D-fructofuranose 2′,1:2,3′-dianhydride
T. TANIGUCHI, M. SAWADA, T. TANAKA, AND T. UCHIYAMA (Osaka, Japan) 13

Methanolysis of acetylated sugars and glycosides in the presence of tin oxides and alkoxides
J. HERZIG, A. NUDELMAN, AND H. E. GOTTLIEB (Ramat Gan, Israel) 21

Synthesis of 2,3:4,6-di-*O*-isopropylidene derivatives of alkyl α- and β-D-galactopyranosides, and elucidation of structure by n.m.r. and X-ray analysis
P. L. BARILI, G. CATELANI, F. COLONNA, A. MARRA (Pisa, Italy), S. CERRINI, AND D. LAMBA (Rome, Italy) 29

Isolation and structure of a new oligosaccharide formed as a by-product during the preparation of commercial lactulose
T. PEHK, E. LIPPMAA (Tallinn, U.S.S.R.), J. SCHRAML, O. PIHAR, M. MINÁRIK (Prague, Czechoslovakia), J. HIRSCH (Bratislava, Czechoslovakia), H. KNOBLOCH, AND S. N. DATTA (St. Ingebert, F.R.G.) 43

Conjugates of biologically active lipid A-subunit analogs with 3-deoxy-D-*manno*-2-octulosonic acid (KDO) and its methyl ester
M. KISO, M. FUJITA, M. TANAHASHI, Y. FUJISHIMA, Y. OGAWA, A. HASEGAWA (Gifu, Japan), AND F. M. UNGER (Vienna, Austria) 51

Synthesis of branched D-xylofuranan by selective, ring-opening polymerization of silylated 1,5-anhydro-β-D-xylofuranose, and its conversion into a blood anticoagulant
T. YOSHIDA, T. ARAI, Y. MUKAI, AND T. URYU (Tokyo, Japan) 69

A convenient method for the cleavage of the D-mannosyl-L-gulose disaccharide from bleomycin-A_2
A. KENANI, G. LAMBLIN, AND J.-P. HÉNICHART (Lille, France) 81

Degradation with formic acid of conformationally different (1→3)-β-D-glucans isolated from liquid-cultured mycelium of *Grifola frondosa*
Y. ADACHI, N.OHNO, T. YADOMAE, Y. SUZUKI, K. SATO, AND S. OIKAWA (Tokyo, Japan) 91

Semisynthetic analogues of ginsenosides, glycosides from ginseng
L. N. ATOPKINA, V. A. DENISENKO, N. I. UVAROVA, AND G. B. ELYAKOV (Vladivostok, U.S.S.R.) 101

Analysis of positions of substitution of *O*-methyl or *O*-ethyl groups in partially methylated or ethylated cellulose by the reductive-cleavage method
A. J. D'AMBRA, M. J. RICE, S. G. ZELLER, P. R. GRUBER, AND G. R. GRAY (Minneapolis, MN, U.S.A.) 111

(Continued overleaf)

(contents continued)

Structural investigations on the mucilaginous polysaccharides isolated from bark of the avocado tree (*Persea americana* Mill)
D. C. GOWDA, C. SARATHY, AND T. S. RAJU (Mysore, India) 117

Soluble lignin–carbohydrate complexes from sheep rumen fluid: Their composition and structural features
J. CONCHIE, A. J. HAY, AND J. A. LOMAX (Aberdeen, Gt. Britain) 127

Isolation and characterization of the 36-kDa D-mannose 6-phosphate receptor from porcine testis
T. BABA, K. WATANABE, AND Y. ARAI (Ibaraki, Japan) 153

Preparation and application of a pentamannosyl monophosphate–bovine serum albumin conjugate
T. BABA, K. WATANABE, N. YONEZAWA, M. HIROTO, AND Y. ARAI (Ibaraki, Japan) . 163

Wistaria sinensis agglutinin: Purification, carbohydrate specificity, and characterisation of the combining site
H. AHMED AND B. P. CHATTERJEE (Calcutta, India) 173

N-Formylkansosaminyl-(1→3)-2-*O*-methyl-D-rhamnopyranose: The type-specific determinant of serovariant 14 of the *Mycobacterium avium* complex
M. MCNEIL, H. GAYLORD, AND P. J. BRENNAN (Fort Collins, CO, U.S.A.) 185

Synthesis of seven penta-*N*,*O*-acetyl-pseudo-2-amino-2-deoxy-DL-hexopyranoses
S. OGAWA AND M. ORIHARA (Yokohama, Japan) 199

Notes

Synthesis of pseudo-sugar derivatives from 5*exo*, 6*exo*-dihydroxy-*endo*- and -*exo*-7-oxabicyclo-[2.2.1]heptane-2-carboxylic acids
S. OGAWA, M. UEMURA, AND T. FUJITA (Yokohama, Japan) 213

An improved method for the preparation of derivatives of reducing oligosaccharide with 2-(4-aminophenyl)ethylamine
L. H. SEMPREVIVO (Amherst, MA, U.S.A.) 222

A simple n.m.r. method for assigning the carbonyl resonances of carbohydrate acetates
C. M. BUCHANAN, J. A. HYATT, AND D. W. LOWMAN (Kingsport, TN, U.S.A.) . . . 228

Isolation and identification of a linear (1→3)-linked β-D-glucan and other carbohydrate components of the lichen *Stereocaulon ramulosum* (SW.) Räusch
M. BARON, P. A. J. GORIN, AND M. IACOMINI (Curitiba, Brazil) 235

Formation of 1-deoxy-D-*erythro*-2,3-hexodiulose from Amadori compounds
J. BECK, F. LEDL, AND T. SEVERIN (München, F.R.G.) 240

High-pressure approach to the synthesis of "C–O–N–" analogues of nucleosides
E. GROCHOWSKI, H. STEPOWSKA, P. SALAŃSKI, AND J. JURCZAK (Warsaw, Poland) . . 244

Synthesis and reactions of chlorodeoxy-L-idofuranoid derivatives
C. K. LEE (Kent Ridge, Singapore) 247

Synthesis of 6-deoxy-6-fluorosucrose, and its inhibition of *Leuconostoc* and *Streptococcus* D-glucansucrases
S. H. EKLUND AND J. F. ROBYT (Ames, IA, U.S.A.) 253

The synthesis of some novel group IVa organometallic derivatives of carbohydrates
K. J. HALE, L. HOUGH, AND A. C. RICHARDSON (London, Gt. Britain) 259

(Continued on facing page)

(contents continued)

Partial characterisation of galactofuranose-containing heteropolysaccharides from the cell walls of *Talaromyces helicus*
A. PRIETO, P. RUPÈREZ, A. HERNÁNDEZ-BARRANCO, AND J. A. LEAL (Madrid, Spain) . 265

Structure of the capsular polysaccharide (K19 antigen) from uropathogenic *Escherichia coli* O25:K19:H12
B. JANN, R. AHRENS, T. DENGLER, AND K. JANN (Freiburg, F.R.G.) 273

Bacteriophage degradation of the capsular polysaccharide of *Klebsiella* K24 and determination of the position of the *O*-acetyl group
G. ANNISON, G. G. S. DUTTON, AND P. K. MANDAL (Vancouver, B.C., Canada) . . 278

Structure of a neutral polymer isolated from the lipopolysaccharide of the reference strain (C.D.C. 4523-60) for *Serratia marcescens* serogroup O15
D. OXLEY AND S. G. WILKINSON (Hull, Gt. Britain) 285

Distribution of substituents in *O*-ethylcellulose
K.-G. ROSELL (Vancouver, B.C., Canada) 289

Preliminary communications

Synthesis of antigenic copolymers of *N*-acetylneuraminic acid binding to wheat germ agglutinin and antibodies
R. ROY AND C. A. LAFERRIÈRE (Ottawa, Ontario, Canada) C1

Chemoselective reduction of D-fructose in the presence of D-glucose
R. ROY, S. GERVAIS (Ottawa, Ontario, Canada), A. GAMIAN AND J. BORATYNSKI (Wrocław, Poland) C5

A new and efficient synthesis of pyruvate acetals of hexopyranosides
H. HASHIMOTO, K. HIRUMA AND J. TAMURA (Yokohama, Japan) C9

Alkyl sulfenyl triflate as activator in the thioglycoside-mediated formation of β-glycosidic linkages during oligosaccharide synthesis
F. DASGUPTA AND P. J. GAREGG (Stockholm, Sweden) C13

Book review C18

Author Index C19

Subject Index C21